REMARKS

In response to the pending Office Action, claims 11, 13, and 24 are amended, and claims 12, 14, 25, and 27 are cancelled without prejudice. Claims 1-10, and 16-23 were previously cancelled without prejudice. Claims 11, 13, 15, 24, and 26 are now active in this application. No new matter has been added. Claims 11 and 15 and 24 are independent claims.

Applicants appreciate the allowance of claim 15.

Claims 11 and 24 were rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Keller et al. (U.S. 6,503,195) in view of Suzuki et al. (U.S. 4,621,191) and further in view of Svetkoff et al. (U.S. 5,812,269). This rejection is traversed.

Claims 12 and 25 were rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Keller in view of Suzuki, Svetkoff, and Komobuchi et al (U.S. 6,248,133). Applicants submit that this rejection is moot because claims 12 and 25 have been cancelled.

Claims 13 and 27 were rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Keller in view of Suzuki, Svetkoff, Komobuchi, and Kusaka (U.S. 5,589,909). Applicants submit that this rejection is moot with respect to cancelled claim 27. Applicants traverse the rejection of claim 13.

Claims 14 and 26 rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Keller in view of Suzuki, Svetkoff, and Kusaka. Applicants submit that this rejection is moot with respect to cancelled claim 14. Applicants traverse the rejection of claim 26.

Independent claim 11 recites, in part:

> a controller for controlling an electric charge accumulation time of said plurality of light-receiving elements such that the scanning mechanism moves the detection light beam for each sampling period and **a plurality of types of outputs with different electric charge accumulation times are produced by each of said light-receiving elements in one light-receiving area for each sampling period**, discriminating whether at least one of said plurality of types of output

> signals is saturated for each one of the two-dimensionally arranged light-receiving elements or for each part of the two-dimensionally arranged light-receiving elements, and selecting non-saturated signals among said plurality of types of output signals for each one of the plurality of two-dimensionally arranged light-receiving elements or for each part of the plurality of two-dimensionally arranged light-receiving elements, based on the result of the discrimination,
>
> wherein the controller controls said image sensing device so as to **output a signal corresponding to the accumulated electric charge upon lapse of a first accumulation time and continue to accumulate electric charge while maintaining said accumulated electric charge until a second charge accumulation time**, and
>
> wherein the controller outputs a signal by multiplying an output value during a first accumulation time by a multiple derived from a ratio between accumulation times.

In order to establish *prima facie* obviousness under 35 U.S.C. § 103(a), all the claim limitations must be taught or suggested by the prior art. Further, "rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F. 3d 977, 988 (Fed. Cir. 2006). At a minimum, the cited prior art references do not disclose (expressly or inherently) or suggest the above recited highlighted (bolded) elements.

The Office Action, at pages 2-5, asserts that the combination of Keller, Suzuki and Svetkoff allegedly disclose all of the elements of claim 11. However, Keller is merely directed to a three-dimensional input apparatus. Specifically, Keller, at column 12, lines 19-43, merely states:

> The specularity reduction method may be implemented in hardware, software, or a combination of hardware and software. FIG. 4 illustrates exemplary steps that may be performed by a specularity reduction routine according to the present invention. In step ST1, the specularity reduction routine reads the pixel intensity values sampled by the camera. In steps ST2 and ST3, the specularity reduction routine determines whether light-receiving cells in the camera are saturated. Determining whether light-receiving cells are saturated may include determining whethera cell records a maximum intensity value. For example, for a camera with 8 bits for representing pixel intensity, a receiving cell recording an

> intensity value of 255 may be identified as saturated. In step ST4, if one or more of the light-receiving cells are saturated, pixel intensity values for the non-saturated cells are recorded. In step ST5, the specularity reduction routine reduces the integration time and instructs the camera to re-sample the image using the reduced integration time. The routine then repeats steps ST1-ST5 until none of the light receiving cells are saturated. When this occurs, the routine adds or integrates the images recorded for each iteration to produce a final image. (step ST6) Because the effects of specular reflections on the final image are reduced, the accuracy of subsequent depth calculations is increased.

Thus, Keller does not teach or suggest, "**a plurality of types of outputs with different electric charge accumulation times are produced by each of said light-receiving elements in one light-receiving area for each sampling period,**" as required by claim 11. Further, Keller does not teach or suggest, "**output a signal corresponding to the accumulated electric charge upon lapse of a first accumulation time and continue to accumulate electric charge while maintaining said accumulated electric charge until a second charge accumulation time,**" as required by claim 11.

Further, Suzuki is merely directed to different charge accumulation times. Specifically, Suzuki, at column 4, lines 11-22, merely states:

> FIG. 6 is a diagram showing the photoelectric characteristics of the photoelectric element arrays S_a and S_b, which are of the charge accumulation type. Characteristic lines 12a, 12b and 12c correspond to charge accumulation times T_1, T_2 and T_3, respectively. The relation among T_1, T_2 and T_3 is $T_1<T_2<T_3$. For instance, if the charge accumulation time T_2 is set, the available dynamic range (the region of nonsaturation) is as indicated by reference character d. On the other hand, if the charge accumulation time is changed from T_1 to T_3, the dynamic range is increased as indicated by reference character d'. Accordingly, in the case where the charge accumulation times of the photoelectric element arrays S_a and S_b are changed in inverse proportion to the average value of the optical intensity distribution, even if the average values of the optical intensities change, the time-series outputs of the photoelectric element arrays S_a and S_b, namely, the video output signal VIDEO at the output terminal 11, will not change. That is, the video output signal VIDEO supplied to the contrast detecting circuit U_4 is constant at all times.

Thus, Suzuki does not teach or suggest, "**a plurality of types of outputs with different electric charge accumulation times are produced by each of said light-receiving elements in one light-receiving area for each sampling period,**" as required by claim 11. Further, Suzuki does not teach or suggest, "**output a signal corresponding to the accumulated electric charge upon lapse of a first accumulation time and continue to accumulate electric charge while maintaining said accumulated electric charge until a second charge accumulation time,**" as required by claim 11.

Additionally, Svetkoff is merely directed to triangulation. Svetkoff, at column 9, lines 40-45, merely states:

> The system includes a laser transmitter 100 which generally includes laser beam generator and electronic modulation mechanism for laser intensity control, beam deflector for scanning the laser beam or projecting a line of laser light, and optical focusing means to create a plurality of scanned points or a projected line of light across an object 102.

Thus, Svetkoff does not teach or suggest, "**a plurality of types of outputs with different electric charge accumulation times are produced by each of said light-receiving elements in one light-receiving area for each sampling period,**" as required by claim 11. Further, Svetkoff does not teach or suggest, "**output a signal corresponding to the accumulated electric charge upon lapse of a first accumulation time and continue to accumulate electric charge while maintaining said accumulated electric charge until a second charge accumulation time,**" as required by claim 11.

Thus, at a minimum, the combination of Keller and Suzuki and Svetkoff fails to teach or suggest the forgoing elements, and therefore claim 11 is allowable over the cited art.

Independent claim 24 recites, in part:

> controlling an electric charge accumulation time of said plurality of light-receiving elements such that the scanning mechanism moves the detection light

beam for each sampling period and **a plurality of types of outputs with different electric charge accumulation times are produced by each of said light-receiving elements in one light-receiving area for each sampling period,** discriminating whether at least one of said plurality of types of output signals is saturated for each one of the two-dimensionally arranged light-receiving elements or for each part of the two-dimensionally arranged light-receiving elements;

selecting non-saturated signals among said plurality of types of output signals for each one of the plurality of two-dimensionally arranged light-receiving elements or for each part of the plurality of two-dimensionally arranged light-receiving elements, based on the result of the discrimination;

controlling the image sensing device so as to **output a signal corresponding to the accumulated electric charge upon lapse of a first accumulation time and continue to accumulate electric charge while maintaining said accumulated electric charge until a second charge accumulation time**; and

outputting a signal by multiplying an output value during a first accumulation time by a multiple derived from a ratio between accumulation times.

Thus, Applicants submit that claim 24 is allowable for reasons similar to claim 11.

Under Federal Circuit guidelines, a dependent claim is allowable if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, *Hartness International Inc. v. Simplimatic Engineering Co.*, 819 F.2d at 1100, 1108 (Fed. Cir. 1987).

Thus, as independent claims 11 and 24 are allowable for the reasons set forth above, it is respectfully submitted that dependent claims 13 and 26 are allowable for at least the same reasons as their respective base claims.

Accordingly, it is urged that the application, as now amended, is in condition for allowance, an indication of which is respectfully solicited. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, Examiner is requested to call the undersigned attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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WDC99 1529012-2.048864.0021